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THE ROAD TO RECOVERY - REHABILITATION BEFORE AND AFTER LUNG TRANSPLANTATION

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Introduction: Patients with different pulmonary conditions such as alpha-1 antitrypsin deficiency (AAD) can progress to advanced stage lung disease that causes evident impact on life with lung transplantation (LT) as an accepted modality of treatment.
Our pulmonary rehabilitation (PR) department incite the enrolment of patients with advanced stage lung disease in PR before and after LT.
Case summary: The patient is a 45-year old male. In 2007. he visited pulmonologist because of his history of increasing dyspnea on exertion and occasional cough. Pulmonary function test (PFT) revealed significant airflow obstruction (forced expiratory volume in 1st second (FEV1) was 52%) and diagnosis of COPD was confirmed.
In June 2013 he was admitted to the hospital because of increasing dyspnea and weight loss. PFTs revealed further accelerated decline. He was diagnosed with AAD with evidence of pulmonary emphysema development and started augmentation therapy. Patient had his first PR which had enabled him to function independently, relieve symptoms, decrease disability and increase quality of life. He was educated about breathing and

relaxation techniques. He also had aerobic exercises (Nordic walking, treadmill walking and stair climbing) as well as exercises for lower and upper body. Psychological support was also conducted.
In January 2015 he was hospitalized for evaluation because of further deterioration of respiratory function and weight loss. At the same time pre-transplant evaluation began as well as another PR.
In October 2015 he was registered for LT programme. A double LT under ECMO support with correction of sinus venosus atrial septal defect was performed on May 08, 2016 in AKH Wien. The postoperative course was prolonged due to paresis of n. laryngeus recurrens, left sided pneumothorax and bilateral pleural effusion. He was included in post-transplant PR with FEV1 60%. Post-transplant PR was focused on the optimal expansion of the lungs and secretion clearance of respiratory tract as well as the effective breathing and activation of upper and lower extremities. As the muscular strength and endurance gradually improved, patient could bear a greater intensity than preoperatively.
After post-transplant PR his PFT´s were in physiological values, FEV1 was 101%. It was a remarkable improvement which naturally required patient to be extremely motivated.
Conclusion: Pre-transplant PR is an effective treatment option for all lung transplant candidates considering its benefits to the patients.